INP Reference

Feasibility study for battery energy storage system (BESS)

LOCATION: Ingelheim am Rhein, Germany

SERVICES: Solution development / Feasibility studies

INDUSTRY BRANCH/TYPE OF PLANT: Green Energy

CLIENT: Boehringer Ingelheim Pharma GmbH & Co. KG

ACTIVITY PERIOD: 2025

POINTS OF CONTACT



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Tasks

Boehringer Ingelheim Pharma GmbH & Co. KG plans to install a battery energy storage system (BESS) to optimize their on-site consumption based on two ground-mounted PV systems. Additionally, with this study is examined the potential for the BESS to support the emergency power supply functions and contribution of a black-start capability.

INP gets the contract for a detailed feasibility study focused on technical and economic aspects, the development of a practicable system concept, and a preliminary system design including an initial economic evaluation.

Project description

INP engineered a scenario-based assessment model for the battery energy storage system. In addition to the preliminary technical design, a scalable business case was calculated. Key aspects included internal parameters, e.g. minimum return on capital, availability of space and grid connection capacity, as well as potential additional values like peak-load capping and under-/over- voltage support. The results served a basis for decision of further steps up to project implementation.

INP Services

- Analysis and prioritization of core- , additional- , and opportunity applications for the battery energy storage system
- Assessment of regulatory and technical framework conditions
- Evaluation and technical design of available battery storage technologies
- Enquiry of indicative price offers
- Development of an energy-flow simulation model and profit calculation
- Economic analyses based on several scenarios
- Estimate of investment costs, including grid connection and peripheral infrastructure
- Evaluation of non-monetary value factors (system security, supply continuity)
- Implementation schedule

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- Moderating of project- and final result-workshops